PERCEPTION AND ILLUSION: HISTORICAL PERSPECTIVES


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Recently, with the introduction of visual culture studies into the academic curricula of many universities, the art, science, and technology agenda has received greater exposure. Seeing the proliferation of images within contemporary culture, scholars within this broad academic field have taken on as their mission an investigation of the production, form and reception of images past and present. As a result, visual culture studies have re-defined some of the basic tenets of art history, reconfiguring the text-driven approach put in place through the efforts of men like Alberti and Vasari. Most noticeably, visual culture scholars have probed the long and contested history of word/image relations. Some have developed a keen awareness of visual phenomena in all of their gradations. Others have shown that practitioners were apt to integrate, borrow and push to the limit the technologies that aided research, as is evident in examination of 19th-century entertainment (e.g., the fascination with pinhole cameras and stereoscopes) and in the many digitally based presentations of today. Visual culture theorists have also worked with sight in all of its permutations, examining hypotheses related to vision and a number of historical figures whose influence stretches far beyond the parameters of any single field. Visual culture literature demonstrates this sweep well. In it, we find abundant reference to Plato, the Ut Pictura Poesis tradition, perspective theory, Lessing, Kant, stereoscopic experimentation and so forth. It is also clear that the field has raised several questions. These include: What is visual history? How did the philosophical legacies of earlier thinkers influence our thoughts about images? To what extent are the contributions of historical eras relevant to our work today? How do art, science, and the humanities integrate their evolving schemata within the cultural framework?
What has been missing, however, is a comprehensive, scientifically grounded study to aid the field in developing an understanding of the history of the scientific investigations of the eye, the brain, how we see, what we see and why our ability to see raises so many fascinating questions about sight, vision, and illusion generally. Nicholas J. Wade's Perception and Illusion: Historical Perspectives fulfills this need. His overview, which is focused on empirical advancements rather than the more elusive humanistic concerns of visual culture theorists, is the first volume in the Library of the History of Psychological Theories Series (edited by Robert W. Reiber). Wade treats perception, and principally vision, as an observational discipline. He clarifies the vagaries of visual experience and why they compel our studies. As he explains, the emphasis on errors of perception might appear to be a narrow approach, but, in fact, it encompasses virtually all perceptual research from the ancient to the present. Moreover, as this volume illuminates, the constancies of perception have been taken for granted, whereas departures from constancies have fostered fascination. Wade also demonstrates that perceptual research includes threshold measurement and experiment.

This far-reaching, authoritative and insightful survey examines the variable nature of our perceptual experiences from a number of angles. The author introduces particular aspects of seeing (e.g. the way colors can be modified by their surroundings and that motion aftereffects can make us believe that objects are moving despite our knowledge that they are motionless), and outlines historical tensions between theoretical and experimental methods. Surveying over two millennia of research, Wade, a professor of psychology at the University of Dundee, brings a firm footing to earlier research into the human fascination with perception and presents a broad picture of how the urge to know more has influenced the cultural milieu. Moreover, he has a knack for capturing the importance of incremental discoveries in the overall scheme of investigations and for threading the large and small questions into a unified framework. Thus he conveys that science involves recording and interpreting natural phenomena.

One exceptional aspect of the survey is the author's remarkable sensitivity to the interface of science and philosophy.

This comes through as he traces the history of sight and how visual phenomena raised questions that address the close relationship between vision, light and sight. The volume captures these threads, which wind through the historical story, and brings to the fore issues that are reframed from era to era. We also see that at times new questions emerge. For example, as Wade explains, the distinction between light and sight was not seriously entertained until Kepler described the optical properties of the eye early in the 17th century. Indeed, Kepler's work is one touchstone throughout the volume (because he formulated the problem that generations of students of vision have attempted to resolve: How do we perceive the world as three-dimensional on the basis of a two-dimensional retinal image?).

Reading through the text, I was particularly taken with the historical sweep of the volume. Theories of light, sight and illusion are described, from early naturalistic observations to sophisticated contemporary experiments so frequently intertwined with art commentary today. The careful clarification of the experimental compared to the philosophical arguments that we can identify within various time frames—and across them—brings to mind that natural philosophy was an approach that included science and philosophy under one umbrella prior to the 19th century. Moreover, Wade's ability to balance the parameters of historical and contemporary perspectives allows the reader to see that optics, physiology and ophthalmology emerged from traditions and dogmas. It also becomes clear that laboratory research continues to expand our knowledge of vision, how the eye works, views of the brain, perceptual anomalies, etc. One plus is Wade's extensive integration of quotations from the primary documents of all periods. This captures the mind-space of historical episodes that were quite unlike our own. Wade also makes it clear that certain visual problems were under examination throughout several centuries, whereas others were addressed for the first time during a particular time-period. The sum total brings together a comprehensive cast of characters that includes (among others) Plato, Euclid, Alhazen, Descartes, Kant, Young, Bell, Wheatstone, Brewster, Müller, Helmholtz, Gibson, Julesz and Marr.

Finally, and ironically, the omission of images in this study brings to mind that the tension between words and images, so evident historically, is often sustained in contemporary publications. Indeed, one of the themes within visual culture studies today is that the elevation of text was largely the result of the word-based communication of earlier eras. While I did not feel that Perception and Illusion suffered from the lack of visual documentation, I was aware of the omission, particularly in light of the many reproductions found in other Wade publications. Still, as it stands, this work adds a great deal to recent literature in the history of science related to vision (e.g. David Lindberg's Theories of Vision: From Al Kindi to Kepler [1] and Catherine Wilson's The Invisible World [2]).

A short review can hardly begin to touch the breadth of research within this volume. Suffice it to say that I will revisit this book in the future. During my initial reading, I concentrated on areas of particular interest to my own research. I was impressed with Wade's attention to the instrumental devices and philosophical toys of the 19th century, his overview of the foundation of psychology and the references to visual illusions. Indeed, given Wade's ability to convey visual research, I am certain to refer to the book on many occasions when pursuing future projects. I also recommend this volume to scientists, humanists and those in the arts who work with vision. Moreover, I would especially urge those in the humanities to read it closely. Too many visual-culture theorists have settled into a boilerplate story that would benefit immensely from the details included in Wade's in-depth approach.

References
